

Fauna Sumatrensis.

(Beitrag No. 63).

Blattidae.

By

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(With 10 Figs.).

The present collection of Blattidæ from Western Sumatra was brought together by Mr. JACOBSON, of Fort de Kock, during the years 1922 to 1926. The bulk of the material came from Fort de Kock, 920 m., but a considerable part also from Gunung Singgalang, 1800 m., whilst a few specimens were taken at Tandjung Gadang, 1000 m., Baso, 800 m., Anai Kloof, 500 m., Harau Kloof, Lubuksikaping 450 m., Sawak Lunto and Padang, from the last-named locality practically at sea-level. The collection comprises 55 species and includes 1 new genus, 14 new species and 2 subspecies.

I do not propose for the present to go into the question of the geographical distribution of the group and to compare the Blattid fauna of Sumatra with that of the other parts of the Malaysian sub-region. I only recently completed a report on the Blattidæ of the East Coast of Sumatra, chiefly Medan and neighbourhood, from a collection by Dr. E. MjöBERG ¹⁾, whilst I hope shortly to conclude working out a large collection from Southern Sumatra, made by Dr. H. H. KARNY and Mr. H. C. SIEBERS. When the results of these three collections are available, it will be more useful to compare the Blattid fauna of Sumatra with that of the Malay Peninsula, Java and Borneo.

¹⁾ Since published in the Arkiv för Zoologi, Vol. XXI A, pp. 1—20, 3 figs (1929).

In the following descriptions the sex has been indicated wherever possible. However, a number of specially fragile species had been mounted in such a way, that it would have been difficult to determine the sex without risk of injury to the specimens. The sex had therefore to be left in doubt in a few cases.

The types and a considerable portion of the other material will, with Mr. JACOBSON's kind and generous permission, be kept in the Oxford University Museum.

Oxford, March 1929.

Postscriptum. About a month after I had completed this paper, I received MORGAN HEBARD's important „Studies in Malayan Blattidæ" (Proc. Acad. Nat. Sci. Philadelphia, Vol. LXXXI, pp. 1—109, 6 pls. (1929), the author courteously having sent me an advance proof some time before then. The fact that part of HEBARD's material had come from the same sources as my own, besides from Mr. JACOBSON even from the Raffles Museum, Singapore, unavoidably caused our results to overlap in many cases and some species to be described as new both by him and by myself. Notwithstanding the short time available I have endeavoured to incorporate HEBARD's work as far as possible, though I have not yet been able to adopt the very large number of new genera proposed by him for the Pseudomopinæ, the necessity for which is not apparent in all instances. In the case of three of HEBARD's new species, viz. *Allactina jacobsoni*, *Dorylaca rhabdotops* and *Eucorydia gemma*, examples of which I had in my own new material, I still retain my original descriptions, not by any means in order to supersede that author's definitions, but merely to have in addition descriptions more or less uniform with those of the other Malayan species of Blattidae published by me at different times.

Oxford, August 1929.

LIST OF SPECIES.

Ectobinae.*Theganopteryx apicigera* WALKER.*Anaplecta maculifera* HANITSCH.» *cornea* HANITSCH, *minor* n. subsp.» *sumatrensis* HANITSCH.» *fulvicollis* n. sp.**Pseudomopinae (= Phyllodromiinae).***Pseudothyrsocera xanthophila* WALKER,» *rubro-nigra* HANITSCH.*Ischnoptera biligata* WALKER.» *connectens* n. sp.» *lugubris* n. sp.» *simplex* n. sp.*Blattella germanica* L.*Neoblattella irregulariter-vittata* BRUNNER.» *terminalis* BRUNNER, *minor* n. subsp.» *radicifera* HANITSCH.» *fusco-castanea* n. sp.» *singgalangensis* n. sp.*Margattea anceps* KRAUSS.» *latius-vittata* BRUNNER.» *albo-vittata* n. sp.» *nigra* n. sp.» *pulchra* n. sp.*Graptoblatta notulata* STÅL.*Chorisoblatta jacobsoni* HEBARD.**Epilamprinae.***Morphna badia* BRUNNER.*Rhabdoblatta procera* BRUNNER.*Epilampra lurida* BURMEISTER.*Homalopteryx karnyi* HANITSCH.*Cyrtonota lata* n. g. & sp.*Rhcnoda rugosa* BRUNNER.**Blattinae.***Dorylaea pallipalpis* SERVILE.» *rhabdotops* HEBARD.*Blatta concinna* DE HAAN.

Periplaneta americana L.

» *australasiae* FABR.

» *lata* HERBST.

» *montana* HANITSCH.

Homalosilpha decorata SERVILE.

Archiblatta hoevenii VOLLENHOVEN.

Catara rugosicollis BRUNNER.

Panchlorinae.

Pycnoscelus (= *Leucophaea*) *surinamensis* L.

» *striatus* KIRBY.

Corydinae.

Encorydia gemma HEBARD.

» *tristis* n. sp.

Dyscologamia cesticulata SAUSSURE.

Ctenoneura brunnea n. sp.

Homopteroidea shelfordi HANITSCH.

» *maculata* n. sp.

Holocompsa debilis WALKER.

Oxyhaloinae.

Chorisonaura lativitrexa WALKER.

Areolaria jacobsoni n. sp.

Panesthinae.

Salganca morio BURMEISTER.

» *rugulata* SAUSSURE.

Panesthia javanica SERVILE.

» *polita* KRAUSS.

ECTOBIINAE.

Theganopteryx apicigera WALKER.

Blatta apicigera WALKER. Cat. Blatt. B. M., p. 227 (1868).

6 examples, Fort de Kock, 920 m., 1924—6.

Known from all parts of Malaysia.

Anaplecta maculifera HANITSCH.

Sarawak Museum Journal, Vol. III, p. 80, fig. 2 (1925).

8 examples, Gunung Singgalang, 1800 m., 1925.

Previously known only from Mt. Murud, Sarawak, 6500', where Mjöberg took several examples in 1922.

Anaplecta cornea HANITSCH, **minor** n. subsp.

Anaplecta cornea HANITSCH. Sarawak Mus. J., Vol. III, p. 79 (1925). 1 ♂ Fort de Kock, 920 m., 1925.

Head covered, dull orange; eyes far apart (antennae missing). Pronotum sub-oval, disk dull orange, lateral margins broad, hyaline. Tegmina exceeding the abdomen, pale amber; mediastinal area sub-hyaline, extending to beyond the middle of the costal border; 8 costals, well-marked; radial vein simple; 3 discoidal sectors; anal area small, sulcus reaching to barely $\frac{1}{4}$ the sutural margin; 3 anals, faintly marked. Wings fuscous, costal area & anterior half of apical area very deeply so; radial vein bifurcate; 5 costals; median & ulnar veins simple; 3 stout cross-venules in medio-discal field; 1st axillary 3-ramose; apical area $\frac{2}{5}$ of total wing-length, basal margin very obtusely angled, apical vein lying behind the apical fold. Body below testaceous. Subgenital lamina entire. Cerci testaceous. No styles. Legs testaceous.

♂. Total length 6 mm., tegmina 4.5 mm.

Differs from *A. cornea* mihi, from Mt. Murud & Mt. Dulit, Sarawak, chiefly by its smaller size, viz. 6 mm. as against 9 mm. — *A. fulva* BRUNNER, agrees with it in size & colouring, but differs from it by its bi-lobed sub-genital lamina.

Anaplecta sumatrensis HANITSCH.

Arkiv för Zoologi, Vol. XXI A, No. 2, p. 5, fig. 1 (1929). 6 examples, Fort de Kock, 920 m., 1924–5.

First taken by E. MjöBERG at Medan, East coast of Sumatra, 1919–21. Closely allied to *A. malayensis* SHELFORD, but differing from it by a median rufous streak on the pronotum.

Anaplecta fulvicollis n. sp.

5 examples, Fort de Kock, 920 m., 1925.

♂. Head covered, pale orange, a median orange-red spot just above the antennal sockets; eyes far apart; antennae exceeding the body, base orange, remainder fuscous. Pronotum sub-oval, broader behind; disk testaceous to orange, darker in front, lateral & posterior margins broadly hyaline. Tegmina exceeding the body, fusco-castaneous, mediastinal area extending to quite the middle of the costal border,

hyaline; 8 costals, well-marked; radial vein simple, 3 discoidal sectors; anal area small, sulcus extending hardly beyond $\frac{1}{4}$ the sutural border. Wings fuscous, costal area & anterior half of apical area deeply so; 5 costals; radial, median & ulnar veins simple; 4 stout transverse venules in medio-discal field, & one between median & ulnar; 1st axillary 3-ramose; apical area $\frac{2}{5}$ of the total wing-length, basal margin very

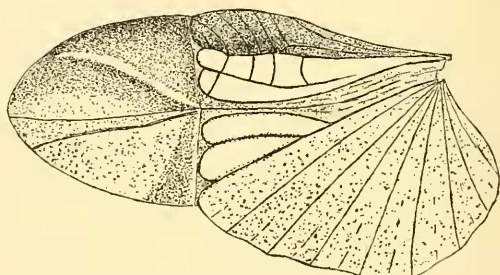


Fig. 1. *Anaplecta fulvicollis* n. sp. left wing $\times 8$.
Fort de Kock, Sumatra, E. JACOBSON, 1925.

obtusely angled, apical vein lying behind the apical fold. Body below fusco-testaceous. Cerci ferruginous. Styles very short. Legs testaceous.

♂. Total length 6.3 mm.; tegmina 4.8 mm.

Near *A. maculifera* mihi, from Mt. Murud, Sarawak (Sarawak Mus. J., Vol. III, p. 10 (1925)), in which, however, the anterior half of the pronotum is of a deep black.

PSEUDOMOPINAE (= PHYLLODROMIINAE).

Pseudothyrsocera xanthophila WALKER.

Blatta xanthophila WALKER. Cat. Blatt, B. M., p. 230 (1868). 11 examples, Fort de Kock, 920 m., 1924—5.

This is the first record from the Malaysian sub-region proper, the type, collected by WALLACE, having come from Celebes. WALKER's description of the type which is in the Oxford Museum, "hind wings black", is not correct. They are golden yellow, with apex & posterior margin strongly infuscated.

Tegmina & wings may be re-described as follows: tegmina: golden orange, apex slightly infuscated; 16 costals

radial bifurcate at $\frac{3}{5}$ from its base; 6 longitudinal discoidal sectors; 7 anals. Wings: golden orange, apex & posterior margin strongly infuscated; mediastinal vein ending beyond the middle of the costal margin, 5-ramose; radial vein straight, bifurcate at $\frac{3}{4}$ from its base; 11 costals, deep orange; median vein simple, slightly sinuous; ulnar 3-ramose; apical triangle hardly indicated; 1st axillary 4-ramose; transverse venules between the axillaries strongly marked, fuscous.

Pseudothyrsocera rubro-nigra HANITSCH.

Phyllodromia rubro-nigra HANITSCH. J., Malay Br., R. Asiat. Soc., Vol. I, p. 412, figs. 11 & 12 (1923).

Pseudothyrsocera rubro-nigra HANITSCH. Bull., Raffles Museum, No. 1, p. 14 (1928).

Pseudothyrsocera fulva HEBARD. Proc. Acad. Nat. Sci., Philadelphia, Vol. LXXXI, p. 79, pl. VI, fig. 2 (1929).
5 examples, Fort de Kock, 920 m., 1922—5.

I first described this species from Gunong Angsi, Malay Peninsula, & later recorded it from the Mentawi Islands. It differs from *P. xanthophila* WALKER, by its much darker colour. — HEBARD's type of his *P. fulva* also came from Fort de Kock, & I regard it as synonymous with this species.

Ischnoptera biligata WALKER.

Ischnoptera biligata WALKER. Cat. Blatt., Brit. Mus., p. 123 (1868).

Blatta biligata WALKER. Ibid., p. 227 (1868).

2 examples, Fort de Kock, 920 m., 1924.

This is the first record of this species from the Malaysian sub-region. WALKER's description is based upon specimens from Ceylon & Celebes, but the Oxford Museum has also several examples, named by Shelford, from Bombay & Madras. The Sumatran specimens agree with the Indian in most respects, the only difference being that the castaneous blotch on the forehead which is very distinct in the Indian forms, is only slightly marked in the one Sumatran example, & absent altogether in the other.

For WALKER's description the following may be substituted from Sumatran material:

Testaceous. — Head exposed, testaceous; a faint castaneous blotch may be present on the forehead, & a band of similar colour between the antennal sockets; eyes apart by less than $\frac{1}{3}$ the width of the head; antennae pale fuscous. Pronotum with the anterior margin parabolic, posterior margin slightly produced; disk testaceous, with pale castaneous blotches; lateral margins dull hyaline. Tegmina exceeding the abdomen, uniform pale testaceous; radial vein bifurcate from beyond its middle; 15 costals; 8 longitudinal discoidal sectors; 6 anals. Wings hyaline, veins testaceous; mediastinal vein 4-ramose; radial vein bifurcate at $\frac{2}{3}$ from its base; 8 costals, ends slightly thickened; median vein simple, only little sinuous; ulnar vein sending 2 branches to the dividing vein, & 3 to the apex; apical triangle only faintly indicated; 1st axillary 3-ramose. Abdomen above fuscous. Supra-anal lamina rounded, with only a slight indentation. Legs testaceous, heavily spined, anterior femora armed after type A.

Total length 14.5 mm.; body 11 mm.; pronotum 3.3×3.8 mm.; tegmina 11 mm.

***Ischnoptera connectens* n. sp.**

1 ♂. Anai Kloof. 500 m., 1926.

♂. Small, fusco-ferruginous. — Head exposed, mottled testaceous & light castaneous; eyes far apart; antennae (mutilated) fuscous. Pronotum with the anterior border parabolic, posterior border only very slightly produced, almost straight; deep testaceous, with darker patches, posterior border broadly fuscous-brown. Tegmina somewhat exceeding the abdomen, uniform dark amber; radial vein bifurcate near its base; 18 costals; 6 longitudinal discoidal sectors; anal area elongate, anal sulcus ending at $\frac{2}{5}$ of the sutural margin; 5 anal veins. Wings dark fuscous, slightly fulvous near the distal end of the costal border; mediastinal vein 3-ramose; 10 stout costals; radial vein simple, almost straight; median vein simple, strongly sinuous, 11 stout transverse venules between radial & median; ulnar also strongly sinuous, sending 4 short branches to the dividing vein & 3 branches to the apex; apical triangle moderately developed; 1st axillary 4-ramose. Abdomen above dark fuscous, below dull

testaceous. Supra-anal lamina ample, rounded, entire. Cerci only moderately long, fusco-testaceous, 8-jointed. Sub-genital lamina rounded, slightly asymmetrical, half as long as broad, the right half somewhat larger than the left; styles shifted to the left. Legs testaceous; anterior femora with 3 large spines, followed by a series of exceedingly small piliform spines (type B).

♂. Total length 11.5 mm.; body 10 mm.; pronotum 2.8×3.1 mm.; tegmina 9 mm.

Resembles *I. klossi* mihi, from the Mentawi Is., (Bull., Raffles Museum, No. 1, p. 14 (1928) both by the very short proximal branches of the ulnar of the wings, & by the armature of the front femora (type B).

***Ischnoptera lugubris* n. sp.**

1 ♀. Fort de Kock, 920 m., 1926.

♀. Of medium size, dull testaceous. — Head exposed, fusco-testaceous, on the fore-head a darker blotch; eyes apart $\frac{1}{3}$ the width of the head; antennae (mutilated) fuscous. Pronotum sub-elliptical, posterior margin only slightly angled, dull orange, with darker blotches. Tegmina barely exceeding the cerci, sub-hyaline, light amber; radial vein bifurcate at $\frac{3}{5}$ from its base, 15 costals, 8 longitudinal discoidal sectors, anal sulcus reaching to nearly $\frac{1}{2}$ of the sutural margin, 6 anal veins. Wings hyaline, faintly fulvous, costal margin & apex pale orange; mediastinal vein 4-ramose, radial vein straight, bifurcate at $\frac{3}{5}$ from its base; 10 costals; median vein simple, almost straight; ulnar vein sending 3 branches to the apex, & 2 short branches to the dividing vein (the remaining 6 branches being more of the character of transverse venules); apical triangle merely indicated; 1st axillary 4-ramose. Abdomen above mottled fuscous & black, below ferruginous. Supra-anal lamina small, triangular; sub-genital lamina ample, rounded, entire, ferruginous. Cerci dark fuscous. Legs reddish-testaceous, heavily spined; front femora armed after type A.

♀. Total length 15 mm.; body 12.5 mm.; pronotum 3×4 mm.; tegmina 12 mm.

***Ischnoptera simplex* n. sp.**

1 ♂, Fort de Kock, 920 m., 1925.

♂. Fulvo-ferruginous. — Head exposed, fulvo-ferruginous, 3 faint darker longitudinal stripes on the vertex; eyes apart by less than $\frac{1}{3}$ of the width of the head; antennae (mutilated) fuscous. Pronotum with the anterior margin parabolic, posterior margin obtusely angled; disk deep orange, lateral margins fulvo-testaceous, posterior margin dark fuscous. Tegmina exceeding the body by $\frac{1}{5}$ of their length, uniformly amber to fulvo-ferruginous, radial vein bifurcate near base, 16 costals, of which the 12th & 14th are bifurcate; longitudinal discoidal sectors; anal sulcus reddish-castaneous, ending at $\frac{2}{5}$ of the sutural margin; 7 anals. Wings fuscous, costal margin & apex dull ferruginous, mediastinal vein 5-ramose, radial vein bifurcate at $\frac{2}{5}$ from its base, 8 costals, of which the 5th, 6th & 7th are ramose; median vein simple, slightly sinuous, transverse venules between mediastinal & radial, & between radial & median strongly marked; ulnar sinuous, sending 5 branches to the apex, & 7 to the dividing vein, 5 of the latter being very short; apical triangle merely indicated; 1st axillary 10-ramose. Supra-anal lamina large, pentagonal, base broadest, posterior border bifid; surface uneven, a median keel with a shallow depression on either side. Cerci testaceous, of moderate length, 12-jointed. (Sub-genital lamina obscured). Legs testaceous, heavily spined, front femora armed after type A.

♂. Total length 20 mm.; body 15 mm.; pronotum 4×5 mm.; tegmina 16 mm.

In appearance very like *I. excavata* SHELFORD, the type of which is in the Oxford Museum, but differing from it by the supra-anal lamina which in the latter species has two deep pits & an undivided posterior margin.

***Blattella germanica* L.**

10 examples, Fort de Kock, 920 m., 1924—6; 1 ♂ Padang 2 m., 1926; 1 ♂ Tandjung gadang, 1000 m., 1926.
Cosmopolitan.

Neoblattella irregulariter-vittata BRUNNER VON WATTENWYL.

Phyllodromia irregulariter-vittata BRUNNER. Abh. Senck. Ges., Vol. XXIV, p. 202, pl. XVI, fig. 1 (1898).

Neoblattella irregulariter-vittata HANITSCH. Bull. Raffles Museum, No. 1, p. 17 (1928).

Parasymphloe dichroa HEBARD. Proc. Acad. Nat. Sci. Philadelphia, Vol. LXXXI, p. 73, pl. IV, fig. 10 (1929).

1 example each from Gunung Singgalang, 1800 m., 1925, & Baso, 800 m., 1926.

Recorded already from Borneo, Java, & the Mentawi Islands, but also taken by KARNY & SIEBERS at Wai Lima, S. Sumatra.

— I re-described this species when recording it from Mentawi.

— HEBARD's type of his *Parasymphloe dichroa* from Lasikin, Simalur I., Sumatra (JACOBSON, April 1913) is probably synonymous with this species.

Neoblattella terminalis BRUNNER, **minor** n. subsp.

Phyllodromia terminalis BRUNNER. Abh. Senck. Ges., Vol. XXIV, p. 206, pl. XVI, fig. 11 (1898).

1 ♀, Fort de Kock, 920 m., 1925.

BRUNNER's description of his *P. terminalis*, from Borneo, is most meagre. However, the striking colouring of the tegmina which he describes as "picea, apice pellucida", leads me to suppose that the form from Fort de Kock is merely a sub-species, differing only by its smaller size & by the pronotum having a narrow hyaline margin. It may be described as follows:

♀. Short, broad, piceous. — Head exposed, piceous; eyes far apart; antennae (mutilated) fuscous. Pronotum large, anterior margin parabolic, posterior margin obtusely angled; shining piceous, with narrow lateral hyaline margins. Tegmina slightly exceeding the body, piceous, apex hyaline; 10 costals, of which the 8th and 9th are ramose; 6 longitudinal discoidal sectors; anal sulcus reaching to at least $\frac{2}{5}$ of the sutural margin; 5 anals. Wings fuscous, costal border darkest, apex colourless; mediastinal biramose; radial vein simple, straight; 7 costals, their ends thickened; median vein simple, straight; ulnar 5-ramose; apical triangle only indicated; 1st axillary 4-ramose. Abdomen above shining black. Supra-anal lamina

narrow, transverse. Cerci shining black, hirsute, sub-terminal joint testaceous. Body below shining black. Sub-genital lamina ample, rounded, with a very slight indentation in the middle of the posterior border. Legs fusco-castaneous, heavily spined; front femora armed after type A.

♀. Total length 11.5 mm.; body 11 mm.; pronotum 4×4.5 mm.; tegmina 9 mm. (BRUNNER's measurements for his species are: body 13 mm.; pronotum 3.8×5.5 mm.; tegmina 14 mm.).

Specimens (♀♀) agreeing with the form from Fort de Kock were taken by Mr. V. KNIGHT on Pulo Tioman, June 1915.

HEBARD, in Proc. Acad. Nat. Sci., Philadelphia, Vol. LXXXI, p. 47 (1929), described a Blattid from Fort de Kock which he took to be the ♂ of this species, though its tegmina were unicolorous, i. e. without the whitish tips. However, I have before me a ♂ from Wai Lima, S. Sumatra, taken by KARNY, Nov.-Dec. 1921, which shows the whitish tips exactly in the same manner as the ♀.

***Neoblattella radCIFera* HANITSCH.**

Bulletin, Raffles Museum, Singapore, No. 1, p. 20 (1928); Arkiv för Zoologi, Vol. XXI A, No. 2, p. 12 (1929).

Symploce radCIFera HEBARD. Proc. Acad. Nat. Sci. Philadelphia, Vol. LXXXI, p. 61, pl. IV, fig. 4 (1929).

1 ♂, 5 ♀♀, Fort de Kock, 920 m., 1922—6.

I have already recorded this species from other parts of Sumatra, also from several localities on the Malay Peninsula. HEBARD adds Kuching, Sarawak, June 1910.

***Neoblattella fusco-castanea* n. sp.**

1 ♂, Fort de Kock, 920 m., 1926.

♂. Fusco-castaneous. — Head exposed, shining deep castaneous; eyes apart $\frac{1}{3}$ the width of the head; antennae exceeding the body, dark fuscous. Pronotum broad, anteriorly truncate, posteriorly slightly produced; deep castaneous; lateral margins broad hyaline, not reaching to the posterior border. Tegmina much exceeding the abdomen, uniform fusco-castaneous, costal area practically $\frac{1}{2}$ the width of the tegmen; 11 costals, of which the 10th & 11th are ramose;

8 longitudinal discoidal sectors; anal area $\frac{1}{3}$ the length of the tegmen; 5 anals, unusually far apart. Wings fuscous, middle of costal area fusco-castaneous; mediastinal bifurcate, reaching to beyond the middle of the costal border; 9 costals, the first 5 simple, clavate. the 6th to 9th ramose, non-clavate; radial vein simple, straight; median simple, only slightly sinuous; ulnar 5-ramose; transverse venules strongly marked; apical triangle large; 1st axillary 5-ramose. Abdomen above cream-white, lateral margins fuscous. Supra-anal lamina narrow, transverse. Cerci large, fusco-castaneous, strongly hirsute, 12-jointed. Body below fusco-castaneous, lighter in the centre. Sub-genital lamina transverse, rectangular, more than twice as broad as long, posterior border straight. Styles testaceous, far apart, placed at the extreme end of the sub-genital lamina. Legs heavily spined, fusco-castaneous. front femora armed after type A.

♂. Total length 16 mm.; body 11 mm.; pronotum 3.2×4.2 mm.; tegmina 14 mm.

***Neoblattella singgalangensis* n. sp.**

3 examples, Gunong Singgalang, 1800 m., 1925.

♀. Fusco-castaneous. — Head exposed, vertex orange, shading into fusco-castaneous on the forehead; dull orange from the antennal sockets downwards, with a broad diffused castaneous cross-band: eyes apart $\frac{1}{3}$ the width of the head; antennae fuscous. Pronotum with the anterior margin parabolic, posterior margin very obtusely angled, disk blackish castaneous, with two indistinct lighter patches in the posterior half, lateral margins broadly dull orange hyaline. Tegmina somewhat exceeding the body, fusco-castaneous, costal border lighter; radial vein bifurcate from its middle, 21 costals, 8 longitudinal discoidal sectors, anal sulcus extending to $\frac{2}{5}$ of the sutural border, 6 anals. Wings pale fuscous, costal area darker, mediastinal area pale fulvous; mediastinal vein reaching to beyond the middle of the costal border, 4-ramose; radial vein sinuous, bifurcate from its middle; 13 costals; median vein simple, sinuous; ulnar 3-ramose, sinuous; apical triangle large; 1st axillary 4-ramose. Body above fusco-castaneous, terminal segments nearly black. Supra-anal lamina triangular,

apex truncated. Cerci reddish-castaneous. Body below castaneous. Sub-genital lamina rounded, black. Legs castaneous, heavily spined; front femora armed after type A.

♀. Total length 14.5 mm.; body 13 mm.; pronotum 3×4 mm.; tegmina 11.5 mm.

Margattea anceps KRAUSS.

Blatta anceps KRAUSS. Semon's Zool. Forsch. Austr. u. Mal. Arch., Vol. V, p. 749 (1903).

Margattea anceps HANITSCH. Bull. Raffles Museum, No. 1, p. 23 (1928).

Kuchinga anceps HEBARD. Proc. Acad. Nat. Sci. Philadelphia, Vol. LXXXI, p. 42 (1929).

1 example, Tandjung Gadang, 1000 m., 1925.

This is the first record from Sumatra. Previously known from Java, Borneo, the Malay Peninsula, & the Mentawi Islands.

Margattea latius-vittata BRUNNER VON WATTENWYL.

Phyllodromia latius-vittata BRUNNER. Abh. Senck. Ges., Vol. XXIV, p. 202 (1898).

Margattea latius-vittata HANITSCH. Bull. Raffles Museum, No. 1, p. 23 (1928); Arkiv för Zoologi, Vol. XXI A., No. 2, p. 13 (1929).

Scalida latius-vittata HEBARD. Proc. Acad. Nat. Sci., Philadelphia, Vol. LXXXI, p. 53 (1929).

8 examples, Fort de Kock, 920 m., 1924—5.

First recorded by HEBARD from Fort de Kock, but also taken on the East Coast of Sumatra by MJÖBERG. Previously known from Singapore, Java, Macassar & the Mentawi Islands.

Margattea albo-vittata n. sp.

1 ♂, 1 ♀, Padang, 2 m., 1926.

♂. Small. — Head exposed, dark testaceous, a distinct white cross-band between eyes & antennal sockets; eyes apart by more than $1/2$ the width of the head; antennae much exceeding the body, fuscous. Pronotum large, sub-oval, posterior border hardly produced; disk testaceous, with a few darker spots, lateral margins very broad, hyaline. Tegmina

much exceeding the body, hyaline, faintly tinged with fulvous; 12 costals, the first 10 simple, 11th & 12th ramose; radial vein simple, 6 longitudinal discoidal sectors; anal sulcus ending at $\frac{1}{3}$ of the sutural margin; 5 anals. Wings hyaline, mediastinal vein 3-ramose, ends thickened; 9 costals, the first 6 simple, ends thickened, 7th, 8th & 9th ramose, ends not thickened; radial vein simple, straight; median simple, straight; ulnar 4-ramose; apical triangle large; 1st axillary 4-ramose. Body above testaceous, abdominal segments with a continuous broad black margin; body below testaceous, with a narrow black margin & a median series of black blotches. Supra-anal lamina transverse, posterior margin rounded, entire. Cerci testaceous. Sub-genital lamina large, rounded, posterior margin entire. Styles small, far apart. Legs strongly armed, front femora on the anterior margin with 3 large spines, followed by a series of piliform spines (type B).

♂. Total length 10 mm.; body 7.5 mm.; pronotum 2×3 mm.; tegmina 8 mm.

♀. Similar to the ♂. Body below mottled fusco-testaceous, a large black blotch covering the centres of segments 4 to 7. Sub-genital lamina large, rounded, fusco-testaceous.

Closely allied to *M. argentea* mihi, *M. maculata* mihi, & *M. vermiculata* mihi, all from the Mentawi Is. [Bull., Raffles Museum, No. 1. pp. 24—26 (1928)], agreeing with them in their small size, pale colouring, multi-ramose ulnar vein of the wings, & large apical triangle.

Margattea nigra n. sp.

1 example each from Fort de Kock. 920 m., 1924; Tandjunggadang, 1200 m., 1926, & Anei Kloof, 500 m., 1926.

The specimen (♂) from Fort de Kock may be described as follows.

♂. Small, black. — Head exposed, shining black; eyes apart at least $\frac{1}{2}$ the width of the head; antennae exceeding the body, dark fuscous. Pronotum rather narrow, anterior margin parabolic, posterior margin only slightly produced; shining black, lateral margins narrow, pale fulvous, hyaline.

Tegmina exceeding the body by nearly $\frac{1}{3}$ of their length, fusco-castaneous, mediastinal area pale fulvous, hyaline; 15 costals, of which the 13th & 14th are bifurcate; 6 longitudinal discoidal sectors; 5 anals. Wings fuscous; mediastinal vein reaching to the middle of the costal border, 4-ramose; 8 costals, of which the last is bifurcate; radial vein almost straight, simple; median strongly sinuous, simple; ulnar sinuous, 3-ramose; apical triangle prominent; 1st axillary 4-ramose. Body above fuscous. Cerci almost black, hirsute. Body below fusco-castaneous, with lighter blotches. Sub-genital lamina trapezoid. (Styles not observed). Legs testaceous, heavily spined; front femora armed after type B.

♂. Total length 11 mm.; body 8 mm.; pronotum 2.2×3 mm.; tegmina 9 mm.

Margattea pulchra n. sp.

3 examples, Fort de Kock, 920 m., 1922—4.

♂. Light amber-coloured. — Head exposed, mottled light & dark amber; eyes apart by nearly $\frac{1}{2}$ the width of the head; antennae pale testaceous. Pronotum sub-circular, posterior margin slightly produced, disk mottled dark orange, lateral margins pale amber; slightly hirsute, especially along the anterior margin. Tegmina much exceeding the body, uniform pale amber; 18 costals, radial bifurcate from just beyond its middle, 6 longitudinal discoidal sectors; anal area narrow, elongate, 6 anals. Wings with the anterior portion narrow; fuscous, costal margin narrow orange; mediastinal vein 3-ramose, 13 costals, radial vein simple, median vein simple, slightly sinuous, ulnar bifurcate, apical triangle absent or only faintly indicated, 1st axillary 4-ramose. Body above fusco-testaceous, below light testaceous. Supra-anal lamina produced, triangular. Cerci testaceous. Sub-genital lamina produced, triangular. No styles. Legs pale testaceous, heavily spined; front femora with 5 large spines, followed by a series of piliform spines (type B).

♂. Total length 13 mm.; body 9 mm.; pronotum 2.5×3 mm.; tegmina 10 mm.

Graptoblatta notulata STÅL.

Blatta notulata STÅL. Kongl. Svenska Freg. Eugenie's Resa, Ins., p. 308 (1860).

Phyllodromia notulata SHELFORD. Gen. Ins. fasc. 73, p. 13 (1908). — HANITSCH, J., S. B., R. A. S., No. 69, p. 49 (1915), & J., M. B., R. A. S., Vol. I, p. 411 (1923).

Eoblatta notulata SHELFORD. Ent. Mo. Mag. (2), Vol. XXII, p. 155 (1911); HANITSCH, Arkiv för Zoologi, Vol. XXI A., No. 2, p. 14 (1929).

Graptoblatta notulata HEBARD. Proc. Acad. Nat. Sci., Philadelphia, Vol. LXXXI, p. 23 & 26 (1929).

8 examples, Fort de Kock, 920 m., 1922—5.

This widely distributed species, originally described by STÅL from Tahiti, had also been known from the Malay Peninsula, Borneo, Java, Cocos Keeling & Hawaii. HEBARD recently recorded it from Fort de Kock, & myself from the East coast of Sumatra (MjöBERG's collection). I have seen a long series from the Kei Islands (H. C. SIEBERS, 1922).

Chorisoblatta jacobsoni HEBARD.

Allactina jacobsoni HEBARD. — Proc. Acad. Nat. Sci. Philadelphia, Vol. LXXXI, p. 19, pl. II, fig. 1 (1929).

2 ♀♀ Fort de Kock, 920 m., 1922 & 1924.

HEBARD's type came also from Fort de Kock (JACOBSON, Dec. 1920), but the author recorded an additional specimen from Kuala Tahan, Pahang (F. N. CHASEN, Dec. 1921). I have before me examples from Wai Lima, S. Sumatra (KARNY, Nov.—Dec. 1921) & Scott's Road, Singapore (C. J. SAUNDERS, July 1922). All the examples taken so far are females.

♀. Head exposed, light testaceous, 4 longitudinal darker lines on the vertex; eyes apart by more than half the width of the head; antennae testaceous, basal joint fuscous. Pronotum broad, sub-oval; disk with the centre pale fulvous, enclosed by a broad fusco-castaneous ring, open in front; lateral margins broad, hyaline; lateral margins broad, hyaline. Tegmina much exceeding the body, orange, with hyaline costal margins & bluish lines accompanying the veins; mediastinal area hyaline; costal area broad, 12 costals, the first 10 simple,

the 11th & 12th ramose; 7 oblique discoidal sectors; anal sulcus reaching to $\frac{1}{3}$ of the sutural margin, 5 anals; all veins on either side accompanied by sometimes continuous, sometimes discontinuous orange lines, with a narrow space between the orange lines, which in transmitted light (i. e. when the tegmina are opened out) appear colourless, but bluish in reflected light (i. e. when they are closed). Wings fuscous, costal area orange; mediastinal vein 3-ramose, extending to at least $\frac{3}{5}$ of the costal border; 7 costals, the first 5 simple, the 6th & 7th ramose, their bases fuscous, remainder orange; radial vein simple, straight; median vein simple, straight; ulnar bifurcate; apical triangle well developed; 1st axillary 4-ramose. Body above light castaneous, with sub-marginal fuscous blotches. Supra-anal lamina triangular. Cerci orange. Body below fusco-testaceous. Sub-genital lamina rounded, slightly pointed apically. Legs testaceous; front femora with a few slender spines, followed by a series of piliform spines (type B).

♀. Total length 12 mm.; body 8 mm; pronotum 2×3 mm.; tegmina 9 mm.

EPILAMPRINAE.

Morphna badia BRUNNER VON WATTENWYL.

Epilampra badia BRUNNER. Syst. Blatt., p. 189 (1865).
12 examples, Fort de Kock, 920 m., 1925.

BRUNNER gave the origin of the type of this species only doubtfully as 'Java'. I am not aware that it has been taken there again, nor has it yet been recorded from Borneo. However, this beautiful Blattid is not uncommon on Sumatra, Nias, Singapore, the Malay Peninsula & Peninsular Siam. The following are the localities from which I have seen examples:

Sumatra (WALKER's type of *M. ramifera*, collected by WALLACE, in the Oxford Museum);
Sibolangit, Sumatra (J. A. LOERZING, 1917);
Fort de Kock, Sumatra (E. JACOBSON, 1925);
Nias (R. MITSCHKE, 1896; in Oxford Museum);
Singapore (specimens in Raffles Museum, & Oxford Museum);

Gunong Tahan, Malay Peninsula, 2500'—3500' (H. C. ROBINSON, 1905, in British Museum);

Batang Padang, Malay Peninsula, 1500'—2000' (H. M. PENDLEBURY, 1923, in F. M. S. Museums);

Khao Ram, Peninsular Siam (Febr. 1922, in Raffles Museum).

***Rhabdoblatta procera* BRUNNER VON WATTENWYL.**

Epilampra procera BRUNNER. Syst. Blatt., p. 192 (1865).

3 ♀♀ Fort de Kock, 920 m., 1924—6.

Known from all parts of the Malaysian sub-region, also from Nias, the Mentawi Is., & Peninsular Siam. As BRUNNER's description is based upon a ♀, I supplemented it by that of a ♂, from the Mentawi Is., in Bull., Raffles Museum. No. 1, p. 30 (1928).

***Epilampra lurida* BURMEISTER.**

Handb. d. Entomologie, Vol. II, p. 505 (1838). 1 ♀. Fort de Kock, 920 m., 1925.

Previously recorded from India, Sumatra, Java, Borneo & Celebes, but, curiously enough, not from the Malay Peninsula, However, I had recently the opportunity of examining material collected by H. M. PENDLEBURY on Gunong Tahan, 5500', Dec. 1921, at Sungei Tahan, Nov. 1922, & at Nakon Sri Tamarat, Peninsular Siam, 300'—750', Feb. 1922.

***Homalopteryx karnyi* HANITSCH.**

Bulletin, Raffles Museum, No. 1, pp. 29—30, pl. II, figs. 1 and 2 (1928). 1 ♂, Fort de Kock, 920 m., 1925.

Previously only known from the Mentawi Islands (North Pagi, Siberut and Sipora) where it seems to be fairly common.

***Cyrtonota* n. g. ¹⁾**

♀. Broad, winged. — Pronotum very large, sub-semicircular, posteriorly produced, completely covering vertex of head. Tegmina & wings of the ♀ somewhat shorter than the abdomen, their apices sub-truncate. Tarsi moderately long; posterior metatarsus barely as long as the succeeding

¹⁾ *Κυρτός* curved, from the shape of the pronotum.

joints, biserially spined beneath, its pulvillus apical; remaining joints also biserially spined beneath, with apical pulvilli; tarsal arolia present. Male unknown.

Using SHELFORD's key to the Epilamprinae (Genera Insectorum, Epilamprinae, pp. 2—3 (1910)), one arrives at *Hedaia* SAUSSURE and ZEHNTER, from Madagascar. However, that genus can, on account of its pentagonal pronotum, have only remote affinity with *Cyrtonota*. The true position of this new genus seems to be in the neighbourhood of *Rhcnoda* BRUNNER, differing from it by being winged.

***Cyrtonota lata* n. sp.**

1 ♀ Anai Kloof, 500 m., 1926.

♀. Very broad, flat; tegmina & wings not reaching to the apex of the abdomen. — Head covered, deep testaceous,

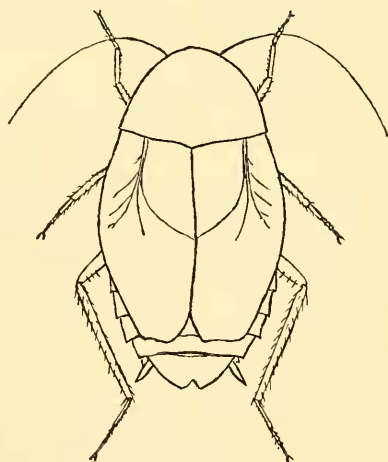


Fig. 2. *Cyrtonota lata* n. g. & sp. ♀ $\times 1\frac{1}{3}$.
Anai Kloof, W. Sumatra, 500 m. E. JACOBSON, 1926.

with scattered small castaneous spots; vertex with 3 longitudinal dark lines; ocellar spots cream-white, a pair of large brown spots just below them; eyes apart not quite $\frac{1}{3}$ the width of the head; antennae (mutilated) dark testaceous at the base, fuscous towards the end. Pronotum very large, anterior margin parabolic, posterior margin obtusely angled; a few irregular impressions on the disk; testaceous, disk with thick masses of dark spots, spreading along the posterior

margin of the pronotum; not punctured; anterior margin broad, light testaceous, with scattered larger & smaller ferruginous spots. Tegmina broad, reaching to the posterior margin of the 6th abdominal segment only, apex rounded to truncated, dark leathery brown, with a very narrow fulvous margin & a few fulvous patches in the mediastinal area; deeply punctured, especially in the anal area; anal sulcus prominent, ending at $\frac{2}{5}$ of the sutural margin; about 36 anal veins, with regularly arranged rows of punctures between them. Wings as long as the tegmina, distal $\frac{1}{3}$ of the costal margin & apex dark brown. Supra-anal lamina large, apex divided by a triangular incision, Cerci short, fusco-testaceous, tips black. Sub-genital lamina large, rounded, entire. Abdomen below pale orange, with smaller & larger deep castaneous spots increasing in density from before backwards. Legs uniform orange to amber, spines stout, ferruginous. Posterior metatarsus as long as the remaining joints, slender, spined along its entire length; pulvillus terminal; 1st & 2nd tarsal joints with a few spines each, 3rd tarsal joint with 1 spine; arolia large.

♀. Total length 34 mm; pronotum 10 × 15 mm; tegmina 20 mm.

Rhicnoda rugosa BRUNNER VON WATTENWYL.

Ann. Mus. Genova (2), Vol. XIII, p. 31, pl. I, fig. 5. 11 a and b (1893). 1 example each, Gunung Singgalang, 1800 m, July 1925, & Tandjung Gadang, 1000 m., Nov. 1925; 2 larvae, Fort de Kock, 520 m., 1925.

Known from all parts of the Malaysian sub-region, also from Pegu, Tenasserim & Halmahera. I recently recorded it from the Mentawi Islands (Bull., Raffles Museum, No. 1, p. 34 (1928)).

BLATTINAE.

Dorylaea pallipalpis SERVILLE.

Kakerlac pallipalpis SERV. Ins. Orth., p. 71 (1839).

Methana pallipalpis KIRBY. Syn. Cat. Orth., Vol. I, p. 136 (1904).

Dorylaea pallipalpis HANITSCH: Bull., Raffles Museum, No. 1, p. 34 (1928).

1 ♂ Fort de Kock, 920 m. (1926).

Distributed over the whole of the Malaysian sub-region, also Talaut, Ceram & Australia. — In recording it from Sipora, Mentawi Islands, I gave a re-description of the ♀ (loc. cit.).

***Dorylaea rhabdotops* HEBARD.**

HEBARD, Proc. Acad. Nat. Sci. Philadelphia, Vol. LXXXI, p. 80, pl. VI, fig. 3 (1929).

1 ♀ Fort de Kock, 920 m., 1924.

HEBARD's type, ♂, came from Simalur Island, W. Coast of Sumatra (E. JACOBSON, Oct. 1913). The ♀ from Fort de Kock may be described as follows:

♀. Stout, broad. — Head exposed, testaceous, with 3 broad transverse shining black bands, viz. one on the vertex, joining

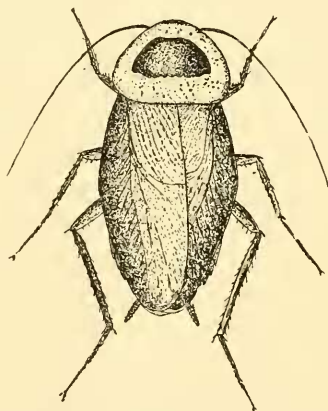


Fig. 3. *Dorylaea rhabdotops* HEBARD ♀ × 1½.
Fort de Kock, W. Sumatra, 920 m. E. JACOBSON, 1924.

the eyes, a second just below the antennal sockets, a third across the lower face; eyes apart by $\frac{1}{2}$ the width of the head; antennae (mutilated) light brown. Pronotum large, broad, anterior margin parabolic, posterior truncate; orange, with a large black blotch occupying the anterior $\frac{2}{3}$ of the disk. Tegmina only just exceeding the abdomen, broad, shining piceous black. Abdomen below shining piceous. Valve

normal, hirsute. Cerci stout, black, with russet pubescence. Fore legs in the main testaceous, with the anterior keel of coxae & femora black, tarsi castaneous; mid legs with the darker markings more pronounced; hind legs almost entirely castaneous, only the hind portion of the femora lighter. Posterior femora heavily armed, 6 spines each on the dorsal & ventral margins; posterior tibiae with the spines on the outer margin tri-seriately arranged; posterior metatarsus long, spined along its entire length; tarsal joints in length about equalling the metatarsus, 1st & 2nd joints spined, 3rd joint not spined.

♀. Total length 27 mm.; body 26 mm.; pronotum 7.5×11 mm.; tegmina 19 mm.; post. femora 7.5 mm.; post. tibiae 9 mm.; post. metatarsus 4 mm.; remaining joints 4.5 mm.

There are in the Oxford Museum two unnamed Blattidae, ♀♀, from Ceylon, collected by E. E. GREEN & presented by MALCOLM BURR in 1903. They closely resemble the present species by the colouring of pronotum & tegmina, but can at once be distinguished by a well-marked longitudinal, not transverse, black stripe on the vertex of the head.

Blatta concinna DE HAAN.

TEMMINCK, Verhand. Orth, p. 50 (1842).

Blattina concinna HEBARD, Proc. Acad. Nat. Sci., Philadelphia, Vol. LXXXI, p. 84 (1929).

4 ♂♂, 7 ♀♀, Fort de Kock, 920 m., 1924—5.

Distribution: the whole of the Malaysian sub-region, also Burma, Indo-China, Hongkong, Japan, & Australia.

Periplaneta americana L.

1 ♂ Fort de Kock, 920 m., 1926; 1 ♂ Padang, 2 m., 1926; numerous ♂♂ & ♀♀ from Sawah Lunto, Jan. 1926, the label bearing the unsavoury details "from a coal mine where they lived in great numbers on the faeces of miners".

Distribution: cosmopolitan.

Periplaneta australasiae FABR.

1 ♂ Sawak Lunto, 1926; 1 ♂, 1 ♀, both immature, Fort de Kock, 920 m., 1926.

Distribution: cosmopolitan.

Periplaneta lata HERBST.

Blatta lata HERBST., Fuessly Archiv, Vol^s VII—VIII, p. 185, pl. XLIX, fig. 6 (1786).

1 ♀ Padang, 2 m., 1926.

So far recorded from Borneo only, but also taken at Kuala Lumpur, in a termite-infested tree (H. M. PENDLEBURY, 25.6.1927).

Periplaneta montana HANITSCH.

J., M. B., R. Asiatic Soc., Vol. I, p. 440, figs. 25 and 26 (1923); Bull., Raffles Mus., No. 1, p. 35 (1928).

1 ♂, Gunung Singgalang, 1800 m., July 1925.

Not uncommon on the hills of the Malay Peninsula & Sumatra. Also occurring in the Mentawi Islands (Pulo Tello, Siberut, Sipora & N. Pagi). Not yet recorded from Borneo or Java.

Homalosilpha decorata SERVILE.

Blatta decorata SERV. Ins. Orth., p. 99 (1839).

Homalosilpha decorata SHELFORD. T. E. S., London, p. 1906, p. 270, pl. XIV, fig. 8. — HANITSCH, Arkiv för Zoologi, Vol. XXI A. No. 2, p. 17 (1929).

2 ♂♂ (adult), 2 ♂♂ (nymphs), 1 ♀ Fort de Kock, 920 m., 1922—6.

As stated by SHELFORD (loc. cit.), the type of this species, from the Marchal collection, is in the Oxford Museum, but it is without locality label, & it is ♂, not ♀, as stated by SERVILE. However, the Museum also contains a ♀, from M^r Penrissen, Sarawak, collected by SHELFORD, May 1899. The first specimen, ♂, from Sumatra was taken by E. MJÖBERG at Medan, 1919—21. The specimens from Fort de Kock therefore constitute the second record from that island.

The two sexes of this collection show considerable difference both in size & colouring. The two ♂♂ are only 22 mm. in total length, with the tegmina of a rich golden brown & the mediastinal area of a deep orange colour, whilst the one ♀ is 26 mm. in total length, with the tegmina of a uniform deep shining black. The bodies of the two immature ♂♂ examples are also shining black.

This species is readily recognized by the colouring of the pronotum which is black, with a sub-marginal golden orange band on either side. This gives it a superficial, but all the same striking resemblance to *Paranauphoeta affinis* SHELFORD, from Bhutan.

The type ♂ of *H. decorata* measures 26 mm. in total length, whilst the dimensions of the specimens from Fort de Kock are :

	♂		♀
total length	22	mm.	26 mm.
body	16	»	20 »
pronotum	3.3 × 4.8	»	5 × 6 »
tegmina	18	»	21 »

Archiblatta hoevenii VOLLENHOVEN.

Tijdschr. Entom., Vol. V, p. 106, pl. VI, figs 1 & 2 (1862).

10 examples, all immature, Gunung Singgalang, 1800 m., 1925.

Distributed over the whole of the Malaysian sub-region.

Catara rugosicollis BRUNNER VON WATTENWYL.

Deropeltis rugosicollis BRUNNER. Syst. Blatt., p. 245 (1865).

1 ♀, Gunung Singgalang, 1800 m., July 1925.

Distributed over the whole of the Malaysian sub-region.

PANCHLORINAE.

Pycnoscelus (Leucophaea) surinamensis L.

7 ♂♂, 6 ♀♀ Fort de Kock, 920 m., 1924—6.

1 ♀ Anei Kloof, 500 m., 1926.

Distribution : cosmopolitan.

Pycnoscelus striatus KIRBY.

Leucophaea striata KIRBY. A. M. N. H. (7), Vol. XII, p. 378 (1903); CHOPARD, Mem. As. Soc. Bengal, Vol. VI, pp. 358—363, pls. XII & XIII, figs 15—20 (1919).

Pycnoscelus striatus HEBARD. Proc. Acad. Nat. Sci. Philadelphia, Vol. LXXXI, p. 95 (1929).

3 ♀♀ Padang, 2 m., 1926.

Previously only known from the Batu Caves, Selangor, &

Goah Glap, Jalor, but recently recorded by HEBARD from Fort de Kock & neighbourhood.

CORYDINAE.

Eucorydia gemma HEBARD.

Proc. Acad. Nat. Sci. Philadelphia, Vol. LXXXI, p. 98 (1929).

6 examples, Fort de Kock, 920 m, 1925.

HEBARD, in describing this species from a ♂ example from Fort de Kock (JACOBSON, Dec. 1921), established the genus *Eucorydia* for all Malayan species of *Corydia* SERVILLE.

♂. Bronze bluish-green. — Head covered; vertex & upper face shining dark bluish-green, minutely punctured; lower face shining black, smooth; eyes far apart; antennae moniliform, black, a sub-terminal orange ring. Pronotum transverse elliptic, of bluish green bronze colour, finely pitted, anterior & lateral margins hirsute. Scutellum moderate. Tegmina exceeding the abdomen by $\frac{1}{4}$ of their length, in reflected light bronze bluish-green, in transmitted light uniform russet-brown, except for the mediastinal field which is dense bronze green, & for a narrow orange streak on the costal margin just beyond the mediastinal field; proximal half of costal border hirsute; proximal third of anal area with greyish-white pubescence; right tegmen where covered by the left, shining bluish-purple. Wings fuscous, costal margin purplish black; 6 costals, with well developed cross-venules; radial vein straight; median vein straight, simple; ulnar vein with 6 rami; 1st axillary with 2 branches, each half bifurcate. Mesonotum, metanotum & abdominal tergites brilliant purplish-blue, 2nd, 3rd & 4th tergites with broad lateral orange margins; supra-anal lamina transverse, narrow. Cerci small, black, hirsute. Abdomen below metallic black, 2nd, 3rd & 4th sternites with broad lateral orange margins; sub-genital lamina shining black. Styles unusually large, black, hirsute. Legs, including tarsi, shining black.

♂. Total length 11 mm., body 8 mm.; pronotum 3×4.2 mm.; tegmina 8 mm.

Closely allied to *E. coerulea* SHELFORD, from Mt. Matang,

Sarawak, the type of which is in the Oxford Museum. The two species agree with each other by the tegmina being of a shining bronze colour in reflected light (viz. bluish in *E. coerulea*, & greenish in *E. gemma*), but of a russet brown colour in transmitted light, except for the mediastinal field which under both conditions remains of a deep bronze colour, & for a narrow orange streak on the costal margin. They differ firstly by the tegmina of *E. coerulea* showing irregular patches of dull orange within the general russet colour when viewed in transmitted light, whilst those of *E. gemma* are of a uniform russet, & secondly by the abdomen of *E. coerulea* ♂ being orange above & below, except for the last two segments which are blue, whilst in *E. gemma* ♂ the entire abdomen above & below is of a uniform purplish blue, with orange margins to segments 2 to 5.

***Eucorydia tristis* n. sp.**

1 ♀ Fort de Kock, 920 m., 1925.

♀. General colour: dull brownish black. — Head exposed, black; vertex & upper face finely pitted, hirsute; lower face smooth, shining; eyes far apart; antennae moniliform, black, the two terminal joints white. Pronotum transversely elliptic, black, anterior & lateral margins russet; entirely

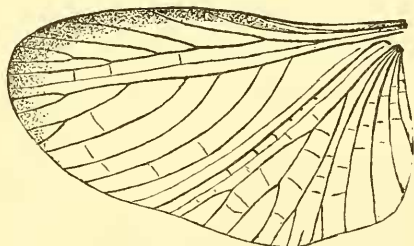


Fig. 4. *Eucorydia tristis* n. sp. left wing $\times 8$.

Fort de Kock, W. Sumatra, 920 m. E. JACOBSON, 1925, coll.

covered with a dull orange pubescence; anterior & lateral margins strongly hirsute with black bristles. Scutellum distinct. Tegmina slightly exceeding the abdomen, in reflected light almost black, in transmitted light russet, with the exception of the mediastinal area which is deep black; entirely covered with a close dull orange pubescence, &

with a few bristles along the mediastinal margin; right tegmen where covered by the left, shining purple. Wings fuscous, costal border & apex almost black; mediastinal vein with 2 branches; 4 costals, the last of which is bifurcate; radial vein straight; median vein simple, straight; ulnar vein with 5 rami; 1st axillary 3-ramose, each branch bifurcating. Mesonotum, metanotum & first 4 abdominal tergites purple, remaining tergites black; lateral borders of abdominal sternites 3 to 5 broad orange. Supra-anal lamina large, rounded, entire. Cerci short, black. Abdomen below shining black, lateral margins of segments 4 to 6 orange. Sub-genital lamina ample, black. Legs, including tarsi, brownish black.

♀. Total length 9.5 mm.; body 9 mm.; pronotum 3×4.2 mm.; tegmina 6.5 mm.

Dyscologamia cesticulata SAUSSURE.

Rev. Suisse Zool., Vol. I, p. 298 (1893).

1 ♂, 1 ♀ Fort de Kock, 920 m., 1924-5.

The type (♀) of this species, now in the Calcutta Museum, came from Singapore, & in A. M. N. H. (7), Vol XI, p. 406 (1903) KIRBY described what he took for the ♂ of this species, from Selangor.

The single ♀ from Fort de Kock quite agrees with SAUSSURE's description, & I am inclined to consider the single ♂ from the same locality to belong to this species, though it differs from KIRBY's description of his ♂ from Selangor. The ♂♂ of the species of *Dyscologamia* so far described from Malaysia, viz. *D. capucina* BRUNNER, KIRBY's ♂ of what he regards as *D. cesticulata* SAUSSURE, & *D. pilosa* WALKER are all distinguished by a pair of pale yellow blotches on the tegmina¹⁾. However, the single ♂ from Fort de Kock, which I consider to belong to the undoubted ♀ *cesticulata* from that locality, has the tegmina unicolorous, without any trace of lighter blotches, & in consequence KIRBY's ♂ would have to be relegated to some other species,

¹⁾ The type of *D. pilosa* WALKER is in the O. U. M. & shows those blotches very plainly, though WALKER, curiously enough, does not mention them.

very likely *D. pilosa* WALKER. — HEBARD, in Proc. Acad. Nat. Sci., Philadelphia, Vol. LXXXI (1929), p. 103, records both ♂ & ♀ specimens of *D. pilosa* from Fort de Kock & neighbourhood, but in the absence of a definite statement as to whether the tegmina of the ♂ are unicolorous or not, we cannot be sure whether his material belongs to *D. cesticulata* or to *D. pilosa*.

To remove any uncertainty, I propose to give a description of what I consider the ♂ & ♀ of *D. cesticulata*, from the Fort de Kock material.

♂. Head covered; vertex & upper face black, slightly granulate; middle of face castaneous, with a tuft of coarse hair; labrum dull orange; eyes apart by only $\frac{1}{6}$ of the distance between the antennal sockets; ocelli large, shining orange; a horseshoe-shaped depression between the antennal sockets, just below the ocelli; antennae (mutilated) with the basal portion pale castaneous. Pronotum oval, thickly punctured, dark ferruginous, clothed with scattered fulvous hair. Scutellum large, triangular. Tegmina exceeding the abdomen by nearly $\frac{1}{2}$ of their length, unicolorous, dark ferruginous, shading to light ferruginous at the tips, densely clothed with fulvous hair. Wings fully developed, hyaline fusco-ferruginous, costal area orange ferruginous, an opaque russet patch just beyond the middle, costal border clothed with fine hair. Abdomen above dull orange. Supra-anal lamina rounded, slightly incised in the middle. Cerci short, stout, russet, thickly hirsute. Abdomen below fusco-ferruginous. Sub-genital lamina oval, $\frac{2}{3}$ as long as broad, posterior margin entire. Styles almost as long as the cerci, russet, also clothed with long hair. Legs dark ferruginous; femora not armed, with thick reddish hair; tibiae strongly armed, densely hirsute; metatarsi & tarsal joints all hirsute, each with 1 pair of terminal spines; anterior metatarsus shorter than the succeeding joints, mid metatarsus of equal length, or slightly longer (posterior metatarsus missing); tarsal claws symmetrical; arolia present, small.

♀. Head covered, granular, dark castaneous, shading into dull orange at the labrum; with scattered fulvous hair; eyes apart $\frac{1}{2}$ the distance between the antennal sockets (i. e. much

further apart than in the ♂); ocelli large, orange; antennae moniliform, castaneous, the proximal half smooth, shining, the distal half with fulvous pubescence. Pronotum very large, roughly semi-orbicular, posterior margin sinuate, laterally drawn out into angles; black, coarsely granular, disk raised, lateral margins thickened, raised. Tegmina slightly exceeding the abdomen in length, very broad, black, with a grey incrustation, coarsely pitted, entirely clothed with scanty short hair. Wings reduced, reaching to the middle of the supra-anal lamina only, width barely $\frac{1}{2}$ that of the tegmina, dark brown, coriaceous. Abdomen above fusco-castaneous. Supra-anal lamina ample, rounded, incised in the middle, fringed with thick hair. Cerci short, stout, black, coarsely hirsute. Abdomen below dark chestnut, with rufous pubescence. Sub-genital lamina ample, posterior margin entire, hirsute. Legs deep castaneous; femora with rufous pubescence; tibiae heavily armed, pubescent; posterior metatarsus somewhat longer than the succeeding joints; tarsal claws symmetrical; no arolia.

	♂		♀	
Total length	28	mm.	25	mm.
body	17.5	»	22.5	»
pronotum	6 × 9.5	»	9 × 14	»
tegmina	23.5	»	18	»
wings	21	»	12.5	»

Ctenoneura brunnea n. sp.

1 example, Gunung Singgalang, 1800 m., 1925.

Head covered, shining dark castaneous; eyes far apart; antennae moniliform, dark fuscous, delicately hirsute. Pronotum sub-circular, disk dark castaneous, lateral margins broad, fulvous hyaline. Tegmina exceeding the body by at least $\frac{1}{3}$ their length, shining olive brown; 9 costals, with anastomosing cross venules especially between the distal costals; radial vein simple, stout; 9 oblique discoidal sectors, with stout cross venules; anal area small, 4 anals. Wings fuscous to brownish, darker along the distal half of the costal margin; mediastinal vein bifurcate from the base; 6 costals, the 5th & 6th bifurcate; radial simple; median bifurcate at $\frac{3}{5}$ from

base; ulnar with 6 parallel branches sweeping forwards; all the transverse venules strongly marked, those between radial & median joining to form a stout longitudinal vein (which

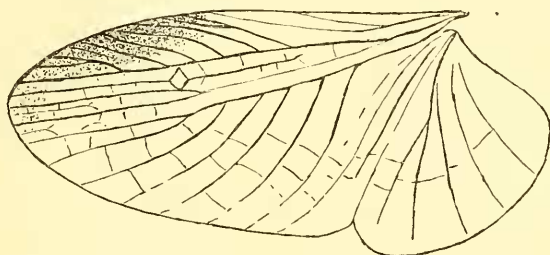


Fig. 5. *Ctenoneura brunnea* n. sp., left wing $\times 8$
Gunung Singgalang, W. Coast, Sumatra, 1800 m., leg. E. JACOBSON, 1925.

may be called "intercalary vein"); posterior part of wing small, not fan-like folded, 1st axillary bifurcate. Abdomen below dark fuscous. Cerci very long, 7 jointed, dark fuscous to black. Legs fusco-testaceous.

Total length 9.6 mm.; body 7 mm.; pronotum 2×2.5 mm.; tegmina 8.8 mm.

This is the fourth species of *Ctenoneura* which I have described, the others being *C. fulva*, from M^t Murud & M^t Dulit, Sarawak (Sarawak Museum J., Vol. III, p. 101, figs. 13 and 14 (1925)); *C. major*, from M^t Murud (ibid., p. 102), from the Langbian Peaks, S. Annam (J., Siam Soc., Vol. VII, p. 26 (1927)) and from Sibajak, Sumatra, 1600 m. (Arkiv för Zoologi, Vol. XXI A, p. 18 (1929); & *C. aberrans*, from Siberut, Mentawi Is. (Bull., Raffles Museum, No. 1, pp. 37—38, pl. II, figs. 3 & 9 (1928)). The first three agree with each other by having the costals of the wings distinct, an "intercalary" vein present, & the median vein branched, whilst in *C. aberrans* the costals are obscured, the intercalary absent, & the median vein simple. The following table may facilitate identification :

Ctenoneura fulva, from Sarawak. Total length (σ & ϕ) 10.8 mm.

Wings :	costals	: 8
	intercalary	: present
	median	: 4-ramose
	ulnar	: 7-ramose.

Ctenoneura major, from Sarawak & S. Annam. Total length (σ & φ) 12.5 mm.

Wings: costals : 8
 intercalary : present
 median : 3-ramose
 ulnar : 8-ramose.

Ctenoneura brunnea, from Sumatra. Total length (sex?) 9.6 mm.

Wings: costals : 6
 intercalary : present
 median : bifurcate
 ulnar : 7-ramose.

Ctenoneura aberrans, from Mentawi. Total length (φ) 4.5 mm.

Wings: costals : obscured
 intercalary : absent
 median : simple
 ulnar : 4-ramose.

Homopteroidea shelfordi HANITSCH.

Sarawak Museum Journal, Vol. III, p. 99, fig. 12 (1925).

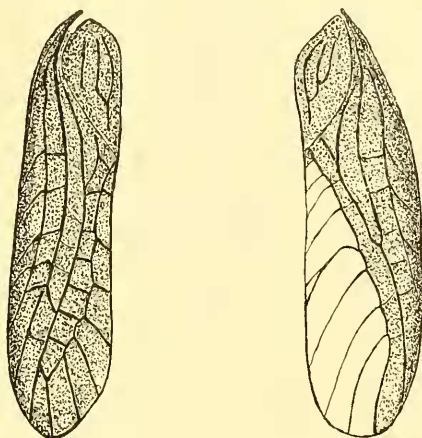
13 examples, Fort de Kock, 920 m., 1924—5; 17 examples, Gunung Singgalang, 1800 m., 1925.

Previously known only from Sarawak & the Malay Peninsula.

I had in my original description overlooked certain differences between the left & the right tegmen. The *left* tegmen is entirely opaque, deeply infuscated, with the veins strongly raised; mediastinal vein short, barely $\frac{1}{3}$ the length of the tegmen, running close to the costal border; radial vein slightly curved, giving off 4 costals & ending at $\frac{4}{5}$ of the costal border; median vein strongly developed, more or less parallel to the radial; ulnar vein arising by two roots, an anterior root from near the base of the median, & a posterior root a short distance from the distal end of the anal sulcus; a number (7) of transverse venules given off from the ulnar which anastomose to form a longitudinal vein which may be called 'pre-sutural' vein, & which sends off 7 branches of increasing length to the sutural border.

The *right* tegmen differs strikingly from the left by that

portion which is covered by the latter being clear hyaline; mediastinal, radial & costal veins exactly similar to those on the left side; median & ulnar veins springing by separate roots, but joining in the middle of the tegmen; "pre-sutural"



left tegmen $\times 10$.

right tegmen $\times 10$.

Fig. 6. *Homopteroidea shelfordi* HANITSCH.

Gunung Singgalang W. Sumatra, 1000 m. E. JACOBSON, 1925.

vein first running parallel to the ulnar & then to the common trunk of ulnar & median, giving off 8 branches to the sutural border, the area between it & the sutural border being entirely hyaline.

The venation of the left tegmen of this species differs only slightly from that of *H. nigra* SHELFORD, from Sarawak, the type of which — though in poor condition — is in the Oxford Museum. The three veins which in the above description I have called median, ulnar & pre-sutural respectively, are by SHELFORD referred to as "longitudinal sectors in the discoidal field" (T. E. S., 1906, p. 274), & can be clearly distinguished both in the type specimen & in SHELFORD's illustration. The only difference in the venation between *H. nigra* & *H. shelfordi* would seem to be that in the former the ulnar & presutural veins of the tegmen are distally broken up into a confused network, whilst in the latter the venation remains regular. (N. B. A comparison with the type shows that the tegmen illustrated by SHELFORD

is not the right one, but the left, either reversed, or seen from below. Of the right tegmen of the type only fragments remain).

Dr. KARNY, in 'Treubia', Vol. IX (1926), pp. 152—162, figs. 151—155, gives a detailed account of *Fulmekia nodipennis* n. g. & sp., from Sumatra, & in a postscript refers to my *Homopteroidea shelfordi*, the description of which had reached him only whilst that of his species was in the press. He very kindly sent me later on his type for examination, and my impression is that *Fulmekia nodipennis* is identical with *H. shelfordi*. The only question to be decided would seem to be whether the genus *Fulmekia* should be retained for those species in which the venation in the distal part of the tegmen remains regular, retaining *Homopteroidea* for those forms in which the ulnar & pre-sutural veins of the tegmen (left tegmen only?) are distally broken up into an irregular network. But as the type of *H. nigra* SHELFORD is in an extremely poor condition, the question may stand over until more material is available.

For the present the easiest way to distinguish those two species is by the pronotum which in *H. shelfordi* has broad hyaline lateral margins, whilst *H. nigra* has the pronotum uniformly opaque.

Homopteroidea maculata n. sp.

1 example, Lubuksikaping, 450 m., 1926.

Head slightly exposed, shining black; eyes far apart; antennae (mutilated) fuscous. Pronotum large, sub-circular, posterior border straight; slightly hirsute along the lateral margins; disk raised, shining purplish black, lateral margins broad hyaline. Tegmina exceeding the body, fusco-castaneous, a large pale fulvous macula at $\frac{1}{8}$ from the base; veins thick, raised; venation of the two tegmina in several points differing from each other; *left tegmen*: mediastinal vein ending at $\frac{2}{5}$ of the costal margin, radial vein at $\frac{4}{5}$; only two costals, very long, slanting; median & ulnar veins springing from a common root, median vein simple, 4 cross-venules between radial & median; ulnar dividing at $\frac{1}{4}$ from its root, the two branches uniting again at $\frac{3}{5}$ from

the root; an additional vein ¹⁾ starting from the sutural border just beyond the anal area, giving off about 6 branches towards the sutural border & ending at the apex; *right*

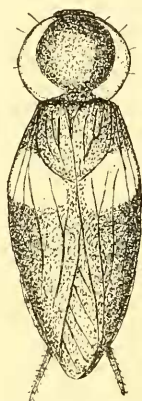
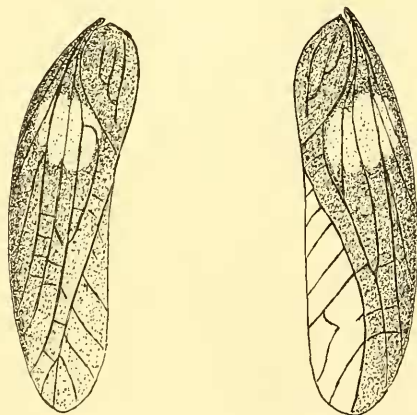


Fig. 7. *Homopteroidea maculata* n. sp. $\times 9$.
Lubuksikaping, W. Sumatra, 450 m. E. JACOBSON, 1926.

tegmen with the mediastinal, radial & costal veins as in the left; median & ulnar veins arising from the same root,



left tegmen $\times 13$. right tegmen $\times 13$.

Fig. 8. *Homopteroidea maculata* n. sp.
Lubuksikaping, W. Coast, Sumatra, 450 m. E. JACOBSON, 1926.

¹⁾ This is the vein for which in the fore-going re-description of *H. shelfordi* mihi I suggested the name "presutural vein".

rejoining at $\frac{2}{3}$, ulnar vein in the middle of its course receiving a short vein from near the distal part of the anal sulcus; a "pre-sutural vein", as in the left tegmen, arising from the sutural border, giving off 7 branches & ending at the apex, the area between it & the sutural margin being entirely hyaline; anal area with 3 veins in either tegmen which join distally. Wings with the anterior portion quite 3 times as large as the posterior, light fuscous, costal area very dark, opaque; mediastinal vein simple, short; radial vein

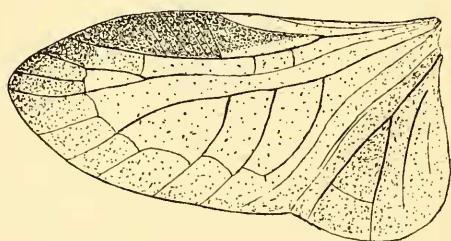


Fig. 9. *Homopteroidea maculata* n. sp., left wing $\times 18$.
Lubuksikaping, W. Sumatra, 450 m. E. JACOBSON, 1926.

giving off a short branch roughly parallel to the mediastinal, main branch with about 8 costals which are almost entirely obscured by the opacity of the costal area; median vein slightly sinuous, bifurcating at $\frac{3}{4}$ of its length; ulnar vein also somewhat sinuous, 4-ramose; a series of transverse venules, running parallel to the contour of apex & sutural border, joining the branches of median & ulnar, these transverse venules from their centres giving off short venules towards the apical & sutural borders; 1st axillary bifurcate, 2nd & 3rd much reduced. Abdomen above & below dark fuscous to black. Cerci very long, hirsute, black, terminal joint finely pointed. Legs dark fuscous.

Total length 6 mm.; body 5 mm.; pronotum 2×2 mm.; tegmina 4 mm.

Readily distinguished by the light maculae of the tegmina from *H. nigra* SHELFORD, & *H. shelfordi* mihi.

I have before me also a ♀ from Wai Lima, Lampong, S. Sumatra (KARNY & SIEBERS, Nov.—Dec. 1921).

Holocompsa debilis WALKER.

Cat. Blatt. B. M. p. 192 (1868) — HANITSCH, Arkiv för Zoologi, Vol. XXI A, No. 2, p. 18 (1929).

1 example, Fort de Kock, 920 m., 1926.

This is the second record from Sumatra, as it had previously been taken by MJÖBERG at Medan, 1919–21. Apparently a widely distributed species. The Oxford Museum has the type, from Sarawak, also examples from Penang & Kandy, Ceylon. I recorded it from Buitenzorg, Java (Treubia, Vol. III, p. 211 (1923), & A. N. CAUDELL from the same locality (Proc., U. S. Nat. Mus., Vol. LXXI, p. 7 (1927). Further, I have seen material from Kuala Lumpur, collected by PENDLEBURY, 1923–4, & quite recently HEBARD recorded it from Manila, Philippines [Proc. Acad. Nat. Sci. Philadelphia, Vol. LXXXI, p. 96 (1929)].

OXYHALOINAE.**Chorisoneura lativitrea** WALKER.

Blatta lativitrea Wlk. Cat. Blatt., B. M., p. 223 (1868).

5 examples, Fort de Kock, 920 m., 1922–5.

I have found this species in two other collections from Sumatra, the one from Medan (E. MJÖBERG, 1919–21), & the other from Wai Lima, Lampong (KARNY & SIEBERS, Nov.–Dec. 1921). Former records are Cambodia, Sarawak & Singapore, to which I can add Kota Tinggi, Johore (V. KNIGHT, Aug. 1917), & Kuala Lumpur (H. M. PENDLEBURY, Sept. 1924).

Areolaria jacobsoni n. sp.

1 ♀, Fort de Kock, 920 m., 1926.

♀. Head exposed; vertex deep orange; face, from the antennal sockets downwards, shining black; eyes far apart; antennae plumose, basal half black, distal half orange, the two terminal joints black again. Pronotum broader than long, anterior & posterior borders nearly straight; disk closely punctured, mottled rufous, orange & testaceous, lateral margins narrow, pale fulvous. Tegmina exceeding the abdomen, convex, corneous, mediastinal field cream-white, remainder deep testaceous, with an orange or rufous tinge; all the

veins marked by black punctures. Wings fuscous, costal area deeply so; mediastinal vein 3-ramose; 9 costals, of which the 6th, 7th & 8th are ramose; radial vein simple, nearly straight; median vein simple, its end turned forwards towards the costal border; ulnar vein bifurcate, the two branches also turned forwards; apical triangle large; 1st

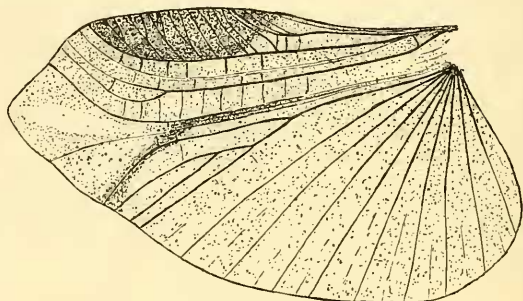


Fig. 10. *Arcolaria jacobsoni* n. sp., left wing $\times 8$.
Fort de Kock, W. Sumatra, 920 m. E. JACOBSON, 1926.

axillary 4-ramose. Abdomen above mottled deep orange & fuscous. Cerci short, conical, deep orange. Abdomen below shining black; sub-genital lamina ample, posterior border straight. Fore legs shining black, tarsi deep castaneous; mid legs black, anterior carina of femora rufous, tarsi nearly black; hind legs black, anterior carina of femora dark rufous, tarsi light rufous.

♀. Total length 8.2 mm.

The following are the chief characteristics of the Malaysian species of *Arcolaria*:

A. consocia WALKER, from Penang. Head fulvous; antennae black; pronotum piceous; tegmina piceous.

A. fieberi BRUNNER, from Java, Singapore & Penang. Head castaneous; antennae not plumose; pronotum castaneous, lateral borders pale; tegmina castaneous.

A. signata SHELFORD, from Borneo. Head black, vertex testaceous, with 2 black lines; antennae plumose; pronotum black, with a longitudinal testaceous vitta; tegmina griseo-testaceous, with transverse black vitta.

A. sumatrana SHELFORD, from Sumatra. Head rufous

(antennae of type missing); pronotum rufous, lateral & posterior margins testaceous-hyaline; tegmina piceous, margins testaceous.

A. uniformis HEBARD, from Singapore. Near *A. consocia* WLK., agreeing with it by its strongly hirsute pronotum & tegmina, but paler, & the pronotum without the pale posterior margin.

A. jacobsoni n. sp., from Sumatra. Head black, vertex deep orange; antennae plumose; pronotum mottled rufous, orange & testaceous; tegmina deep testaceous, with orange tinge.

PANESTHINAE.

Salganea morio BURMEISTER.

Panesthia morio BURM. Hand. Entom., Vol. II, p. 513 (1838).

1 ♂, 1 ♀ Gunung Singgalang, 1800 m., 1925.

Known from all parts of the Malaysian sub-region. Also recorded from Ceylon, Formosa, & Amboina.

Salganea rugulata SAUSSURE.

Rev. Suisse Zool., Vol. III, p. 304 (1895).

1 ♂, nymph. Fort de Kock, 920 m., 1925.

First described from Java. I have already recorded this species from Sumatra & the Malay Peninsula [J., M. B., R. As. Soc., Vol. I, p. 456 (1923)], but can add now Kina Balu, B. N. Borneo. where I took it in March 1889, & New Guinea (C. WILLEMSE).

Panesthia javanica SERVILLE.

Ann. Sci. Nat., Vol. XXII, p. 38 (1831).

Numerous examples from Fort de Kock, 900 m. (1925); Harau Kloof, 550 m. (June 1926); Gunung Singgalang, 1600 m. (Aug. 1925), & Tandjunggadang, 1200 m. (Febr. 1926). A ♀ example from the last-named locality, measuring 52 mm. in total length, is of a deep vinous colour, possibly due to recent ecdysis.

Distributed through the whole of the Malaysian sub-region, Philippines, Burma, Cambodia, & Lower Siam.

Panesthia polita KRAUSS.

SEMON, Zool. Forsch. Austral. Mal. Arch., Vol. V,
p. 754 (1903).

1 ♂, Fort de Kock, 920 m., 1925.

First described by KRAUSS from Java & Borneo, & since recorded by myself from Singapore, the Malay Peninsula, Peninsular Siam, Sumatra & the Mentawi Is. (Bull. Raffles Museum, No. 1, p. 39 (1928)).

ILLUSTRATIONS.

- Fig. 1. *Anaplecta fulvicollis* n. sp. ♂. left wing $\times 8$.
Fig. 2. *Cyrtonota lata* n. g. & sp. ♀. $\times 1\frac{1}{3}$.
Fig. 3. *Dorylaea rhabdotops* HEBARD ♀. $\times 1\frac{1}{2}$.
Fig. 4. *Eucorydia tristis* n. sp. ♀. left wing $\times 8$.
Fig. 5. *Ctenoneura brunnea* n. sp. left wing $\times 8$.
Fig. 6. *Homopteroidea shelfordi* HANITSCH. left & right tegmina $\times 10$.
Fig. 7. *Homopteroidea maculata* n. sp. $\times 9$.
Fig. 8. *Homopteroidea maculata* n. sp. left & right tegmina $\times 13$.
Fig. 9. *Homopteroidea maculata* n. sp. left wing $\times 18$.
Fig. 10. *Areolaria jacobsoni* n. sp. ♀. left wing $\times 8$.
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